Saskatchewan Agriculture and Food

Addendum to the 2001 Guide to Crop Protection

CORRECTIONS:

***Page 162*: MCPA – *Tank Mixes*: Puma 120 Super SHOULD NOT BE INCLUDED as a tank mix option for MCPA Amine in *OATS*. PUMA 120 SUPER WILL SEVERELY INJURE TAME OATS.**

Page 51: **Accord** – *Tank mixes*: Accord tank mixes listed for Express Pack, Avenge, and Avenge/Accord mixes with Buctril M, 2,4-D, and MCPA are for spring wheat only.

Page 60: **Anthem** – *Weeds Controlled*: reference to SMART varieties should read CLEARFIELD varieties.

Page 132: **Glyphosate Pre-harvest** – *Rates*: Touchdown and Victor are not registered for pre-harvest use on forage and are restricted to application rates of 1 L/acre in annual crops. (Should have been placed in the same spot as Glyfos.)

Page 134: **Glyphosate for RR Crops** – *Weeds Staging and Rates for RR Canola*: Control of proso millet is registered only for Roundup Transorb.

Page 146: **Horizon BTM** - *Weeds Controlled and Staging:* list of weeds should also include – Green foxtail (1 to 5 main stem leaves, prior to the emergence of the 3rd tiller), wild oat (1 to 6 main stem leaves, prior to the emergence of the 4th tiller).

Page 154: **Liberty** – *Rates and Weeds Controlled*: titles of columns reading from left to right should read "Weed – Rate (L/acre) – Acres Treated Per 13.5 L Container" (the bottom words in each column have shifted to the left one column).

Page 160: **MCPA** – *Crop Stage:* Second row-first column should read "Wheat (spring and durum), barley, oats." (Bottom line of that row in chart moved to right column.)

Page 168: **Muster Toss-N-Go** – *Rates*: Footnote to the 12 g/acre rate – "High rate of Muster is for use in canola only. DO NOT USE ON CONDIMENT MUSTARD CROPS AS INJURY MAY RESULT."

Page 176: **Poast Ultra** – *Weed Stage*: Rate for 1 to 4 leaf stage application should be 0.13 L/acre.

Page 191: **Refine Extra Toss-N-Go** – *Weeds Controlled and Staging*: Add the following statement "Unless otherwise indicated, apply to young, actively growing weeds of less than 4 inches (10 cm) tall or across."

Page 205: **Sencor** – *Crop Stage*: The second line-left column of the crop staging chart should read "Barley, spring wheat" (the word wheat was displaced into the staging column).

Page 243: **Residual Herbicides Section** – add the line "PRESTIGE – See Curtail M and Attain."

Page 251: **Apron FL** – *Rates and Water Volumes*: Rate values for turf have moved to the left one column.

Page 252: **Apron FL** – *Rates for Crops to Be Exported*: "Rates for Sunflowers" have moved to the left by one column.

New Registrations

Page 50-51: **Accord** – *Tank Mixes*: Buctril M, 2,4-D, and MCPA mixes listed are now for use in spring barley.

Page 128: **Glyphosate** – *Tank Mixes*: Roundup at 0.5 to 0.77 L/acre plus 2,4-D amine or LV ester at 0.23 to 0.57 L/acre (for 500 g/L formulations – see 2,4-D page in Guide to Crop Protection for conversion to other formulation strengths)

Page144-145: **Horizon** – *Tank mixes*: Add MCPA 300 g/L Sodium Salt formulations at 0.48 to 1.09 L/acre; Lontrel at 0.17 to 0.34 L/acre; and Lontrel at 0.085 L/acre plus Refine Extra at 8.1 g/acre as registered mixes.

Page 154: **Liberty** – *Restrictions*: Liberty is registered for application to Liberty Link (glufosinate ammonium tolerant) canola varieties by air. Applications must be made in a minimum of 5 gallons per acre (23 L/acre) of water. A buffer zone of 30 m must be maintained between the downwind edge of the boom and wetlands and areas where sensitive plants are present.

Page 184-187: **Puma 120 Super & Puma Super** – *Restrictions*: Aerial Application: Puma 120 Super has been granted a temporary registration for application by air which expires on December 31, 2001. Puma Super and Puma 120 Super must be tank mixed with an eligible broadleaf tank mix partner for crop tolerance in barley. Check the Puma Super and Puma 120 Super labels for eligible tank mixes. Check the labels of the eligible tank mix partners for aerial registration and other restrictions. Do not apply within 100 m of wetlands or sensitive vegetation.

New Product Registrations

Absolute – Absolute is a pre-packaged tank mix of Odyssey and Lontrel for use in CLEARFIELD canola varieties only. See full product information section below.

K2 – K2 is a pre-packaged tank mix of Everest and Refine Extra for use in spring wheat (NOT including durum). See full product information section below.

Absolute

Herbicide Group – 2 and 4

Company:
BASF

Formulation:

Odyssey: 35 percent imazamox and 35 percent imazethapyr formulated as a dispersible granule, Container size – 2 x 173 g water soluble bags

Lontrel: 360 g/L clopyralid formulated as a solution, Container size – 2 x 3.4 L jugs.

Each case contains one 8.1 L jug of Merge.

Crops and Staging:

CLEARFIELD canola varieties from the 2 to 6 leaf stage. Apply **only** to CLEARFIELD canola varieties; application to **any** other variety of canola or any other crop will result in crop death.

Weeds Controlled and Staging:

Grasses:

Apply from 1 to 4 main stem leaves, until tillers are visible.

Barnyard grass
Green foxtail
Persian Darnel
Volunteer cereals (wheat, barley, oats)
Wild oats

Broadleaves:

Unless otherwise indicated, apply to broadleaf weeds up to 4-leaf stage.

Alsike clover
Canada thistle (rosette to pre-bud stage)*
Chickweed
Cleavers (up to 4 whorls)
Common groundsel
Flixweed
Golden Rod
Hemp-nettle
Kochia
Lamb's-quarters**
Perennial Sow-thistle*
Redroot pigweed
Russian thistle
Scentless chamomile
Shepherd's-purse
Smartweed
Stinkweed
Stork's-bill
Tufted vetch
Volunteer alfalfa
Volunteer canola (non-CLEARFIELD varieties)
Volunteer tame mustard
Wild Mustard
Wild buckwheat

*top growth control for 6-8 weeks
**suppression

Cost:
$29.95/acre (2001 suggested retail price).

Rate:
Odyssey: 8.6 g/acre
Lontrel: 0.17 L/acre
Merge at 0.5 L per 100 L of spray solution
One case treats 40 acres.
Do not apply more than once per year.

Refer to the product label for complete mixing instructions for this product and its mixes. A general guide to mixing can be found on page 13.

Water Volume:
10 gallons/acre (45 L/acre).

Pressure:
275 kPa (40 psi).

Nozzles:
Flat fan nozzles calibrated for 20-40 psi. Use a 50 mesh or coarser screen and filter system.

How it Works:
Odyssey: Imazamox and imazethapyr are both systemic and are absorbed through foliage and plant roots and is translocated to growing points in plants. Symptoms appear in 3 to 10 days and include yellow striping on the newest leaves of grassy weeds, and yellowish, purplish, or reddish discolouration of the newest leaves of broadleaf weeds. Symptoms progress to older leaves and plant death occurs in 1 to 3 weeks.
Lontrel: Clopyralid is a growth regulator type herbicide that is absorbed through foliage and stems of the plant and is translocated to all parts of the plant. Symptoms include swollen growing points and roots, twisted stems and leaves, and a gradual discolouration from green to yellow to brown. Susceptible plants die in 2 to 3 weeks.

Effects of Growing Conditions:
Crops may be more susceptible to injury and weed control may be reduced when plants are under stress. Plants are under stress when environmental conditions cause them to cease actively growing before during or after application. These conditions can include very hot or cool temperatures, very wet or dry conditions, or attack by disease.

Tank Mixes:
Herbicides: None registered
Fertilizers: None registered.
Insecticides: None registered.

Restrictions:
Rainfall: No rainfast period is specified on the label; required interval may be up to 8 hours. Contact manufacturer for more information.
Grazing: Do not graze treated crop or cut for feed prior to crop maturity
Pre-harvest: Do not apply within 60 days of harvest.
Recropping: The following crops may be grown safely the year following an application:
Clearfield canola, spring wheat and durum wheat. In the event of a crop failure during the year of application, only Clearfield canola should be grown. Conduct a field bioassay the year before growing any other crop than those listed above.
Aerial Application: Do not apply by air.
Storage: Do not freeze. Store in a cool, dry place above 5C.
Environment: Avoid spraying in situations where drift may occur. Leave a buffer zone of at least 14 m between the outside boundary of the sprayed area and sensitive areas such as shelterbelts, hedgerows, wetlands, woodlots, vegetated ditch banks, ponds, streams, and sloughs.

Hazard Rating:
Warning Eye Irritant

K2

Herbicide Group – 2

(Refer to page 20)

Company:
DuPont Canada Inc.

Formulation:
Refine Extra: 50 percent thifensulfuron methyl plus 25 percent tribenuron methyl formulated as a dry flowable. Container size: 4 water-soluble bags (80 g each, total 320 g).

Everest: 70 percent flucarbazone-sodium formulated as a water dispersible granule. Container size: 4 x 174g water-soluble packets.

Crops and Staging:
Spring wheat (NOT including durum) - Apply from 1 (expanded) to 4 main stem leaves up to two tillers. Injury may result if applied outside the recommended stages.

Caution: K2 MUST be applied with 2,4-D Amine (not supplied) at 0.35 L to 0.45 L/acre (based on 500g/L formulation) plus 0.25% v/v of a recommended surfactant. See 2,4-D for additional staging and application restrictions.

Weeds Controlled and Staging:
Grasses:
Apply at the 1 to 6 leaf (4 leaves on the main stem + 2 tillers)

Wild oats
Green Foxtail

Broadleaves:
Unless otherwise indicated, apply to young, actively growing broadleaf weeds that are up to 4 inches (10 cm) tall or wide.

When tank mixed with 2,4-D, K2 will control the following broadleaf weeds:

Wild Buckwheat
Burdocks (seedlings)
Chickweed
Cocklebur
Common ragweed
Common plantain
Common groundsel
Corn spurry
Cow cockle
False ragweed
Flixweed
Giant ragweed
Green smartweed
Hemp-nettle
Kochia
Lady's-thumb
Lamb's-quarters
Mustard (ball, hare's ear, Indian, tumble, wild, wormseed)
Narrow-leaf hawk's-beard Pigweed (redroot, Russian)
Prickly lettuce
Russian thistle
Shepherd's-purse
Stinkweed
Sweet clover
Tartary buckwheat
Volunteer canola
Wild radish
Volunteer sunflower

Weeds Suppressed:
Canada thistle (less than 6 inches (15 cm) tall or across and prior to budding)
Cleavers (1 to 3 whorls)
Round-leaf mallow (2 to 6 leaf)
Scentless chamomile
Sow Thistle
Stork's-bill (2-6 leaf)
Toadflax (less than 15cm tall)

Cost:
$19.65/acre plus cost of 2,4-D Amine and adjuvant.

Rates:
Refine Extra: 8g/acre
Everest: 17.4 g/acre
(One case treats 40 acres)

2,4-D Amine (not supplied) must be mixed with K2 at 0.34 to 0.45 L/acre (based on 500g/ L formulation)
Agral 90 or Ag-Surf at.0.25 L per 100L of spray solution

Refer to the product label for complete mixing instructions. A general guide to mixing can be found on page 13 of the 2001 Guide to Crop Protection.

Water Volume:
10 gallons/acre (45 L/acre)

Pressure:
200 to 345 kPa (30 to 50 psi)

Nozzles:
Flat Fan nozzles at 80° or 110°. Use of flood-jet or controlled droplet application equipment is not recommended.

How it works:
Everest - Flucarbazone-sodium is a systemic herbicide that is absorbed by both leaves and roots and moves rapidly to the growing points of the plant. Growth of susceptible plants stops soon after application. Symptoms include discoloration yellowing, and eventually dark green) and complete control may take 2 to 3 weeks.

Refine Extra – Thifensulfuron methyl and tribenuron methyl are absorbed through foliage and translocated to growing points within the plants. Cell elongation is inhibited shortly after application preventing further growth of the weed. Symptoms include discoloration (yellowing, purpling, and reddening) of newest leaves and are visible in 1 to 3 weeks after application.

Effects of Growing Conditions:
Crop tolerance and weed control may be reduced if applications are made to plants growing under stress. Stress includes saturated or waterlogged soil, drought, extreme high or low temperatures, large fluctuations in daily temperature, low fertility or visible disease symptoms at application.

Tank Mixes:
Herbicides: K2 – MUST be applied with 2,4-D amine and a recommended surfactant.
Fertilizers: None registered. Do not mix soluble bags with liquid fertilizers.
Insecticides: None registered.

Restrictions:
Rainfall: Rainfall within 4 hours of application may reduce degree of weed control.
Grazing: Do not graze treated fields. Mature grain or straw may be fed to livestock.
Pre-harvest interval: 80 days
Re-cropping interval: The following crops may be planted 11 months after application: **Black, Dark Brown and Gray-Wooded Soil Zones:** spring wheat, barley, canola, and field peas. **Brown Soil Zone:** spring wheat.
Aerial Application: Do not apply by air.
Storage: Store in a cool, dry place. May be frozen but the water-soluble bags may become brittle and break if handled roughly.

Tank Cleaning:
Both components of K2 can cause severe injury to sensitive crops at very low concentrations. Sprayers used to spray K2 should be flushed out immediately before using another product. Follow the steps below:

1. Drain the tank and thoroughly rinse the spray tank, boom and hoses with clean water. Pay particular attention to flushing out any visible deposits.
2. Fill the tank with clean water and 1% v/v (1 L/100L) household ammonia. Flush the hoses, boom and nozzles with the solution. Circulate for at least 15 minutes. Flush hoses, boom and nozzles once more, then drain the tank.
3. All nozzles, screens and filters should be removed and cleaned after applying this product. Clean nozzles and screens in a separate container using the ammonia and water.
4. Repeat #2.
5. Rinse tank, boom and hoses with clean water.

Do not clean equipment upslope of water bodies or ditches, near cropland or shelterbelts. Clean your sprayer away from areas where family members or others are likely to frequent or walk.

Hazard Rating:
Warning - Eye and Skin Irritant